Grain Production and Consumption for Feed in the North Central and Southern States with Projections for 1985, 1990, and 2000

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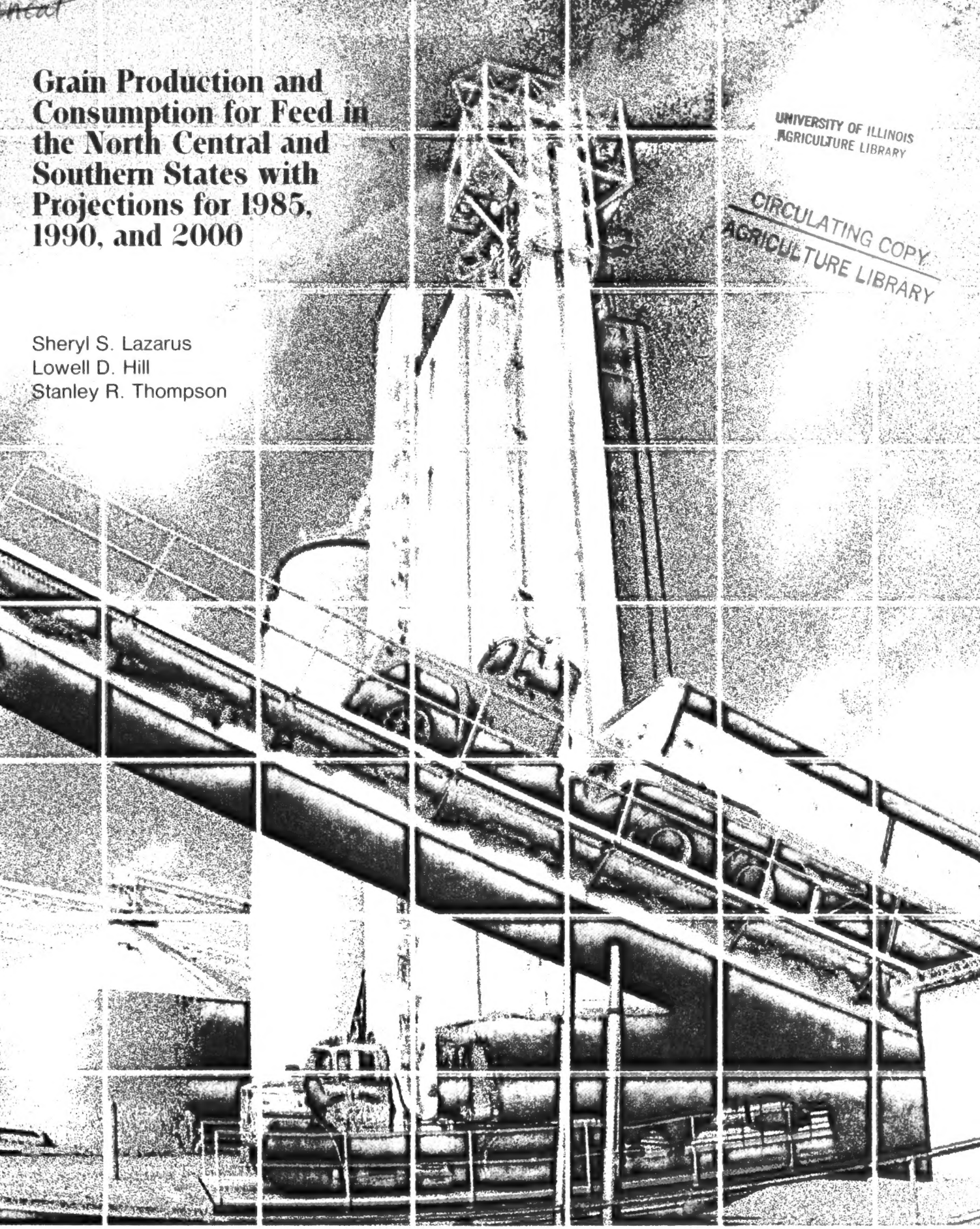

Southern Cooperative Series Bulletin 245
North Central Regional Research Publication 267
University of Illinois at Urbana-Champaign, College of Agriculture, Agricultural Experiment Station Bulletin 763

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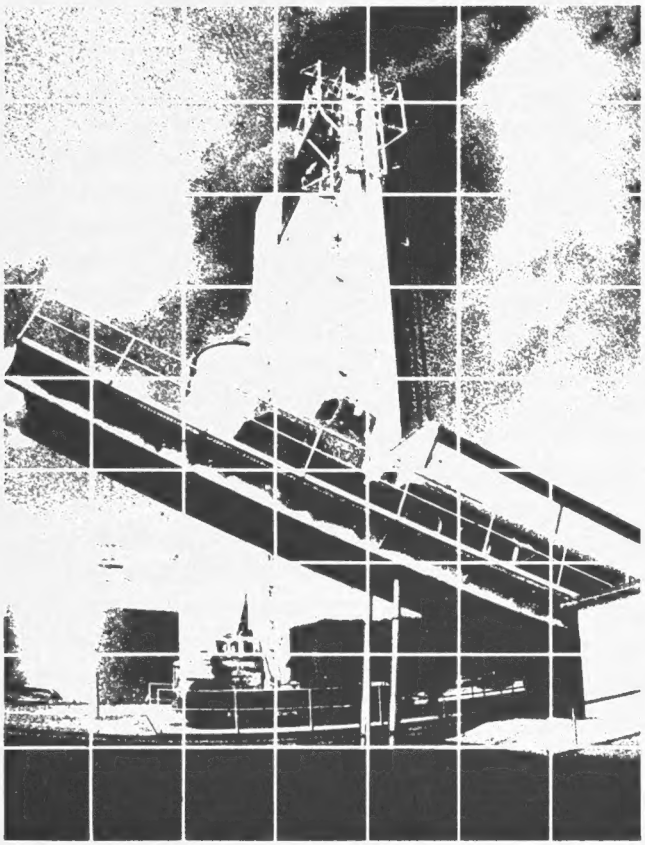

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November, 1980

Southern Cooperative Series Bulletin 245
North Central Regional Research Publication 267
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Preface

This bulletin is sponsored jointly by the North Central Regional Committee for Project NC-137, "Evaluation of Alternative Rural Freight Transportation Storage and Distribution Systems," and the Southern Regional Committee for Project S-115, "Alternative Structures for Increasing Efficiency in Inter- and Intra-Regional Grain Marketing Systems."

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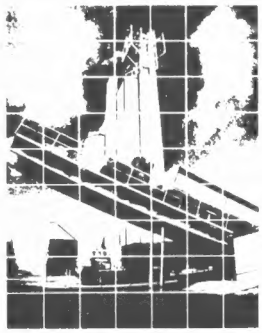


ABSTRACT: Projections of grain production for the states in the North Central and Southern Regions were made for 1984, 1989, and 1999; also, consumption projections for 1985, 1990, and 2000. The estimates of grain production and livestock consumption were used to calculate the marketable grain surpluses (or deficits) for 1985, 1990, and 2000 for the states in the two regions. Estimates of grain production in states outside the two regions are also included, as well as production and consumption figures for the mid-1970's.

This study shows that future grain production will require additional transportation services because of higher production, greater specialization, and larger export demands. A trend toward greater specialization in livestock production over the next two decades is also indicated, with some relative shifts among regions both in the production of grains and in the raising of livestock.

KEY WORDS: ***corn, soybeans, wheat, oats, barley, grain sorghum, grain production, livestock feed, grain transportation, grain marketing, grain projections.***

Grain Production and Consumption for Feed in the North Central and Southern States with Projections for 1985, 1990, and 2000

Sheryl S. Lazarus, Lowell D. Hill, and Stanley R. Thompson

Estimates about the production and consumption of grain and soybeans are important in many types of agricultural analyses. Projections indicating the quantities that will be produced and consumed are needed as a basis for planning and coordinating various market activities. For example, plans to expand an elevator and to purchase new equipment depend on the manager's and owner's perceptions about the future demand for the services provided by that elevator. The government also needs information about the amount of grain that may be flowing through the transportation system. Policymakers need to estimate the future use of certain rail lines when deciding which ones should be considered for abandonment. The expected movement of grain by truck also needs to be reviewed when the government decides what roadways to improve. The transportation industry needs projections about future grain surpluses and deficits in reorganizing transportation systems and planning investments and disinvestments in facilities. Researchers frequently need estimates of the demands for transportation facilities by region as they investigate how to improve transportation systems.

Purpose

The purpose of this bulletin is to provide information about the current and projected demands for commercial grain transportation services in the North Central and Southern States. In order to project the marketable grain surpluses (or deficits) for 1985, 1990, and 2000, production was projected for 1984, 1989, and 1999. Grain consumption was also projected for 1985, 1990, and 2000. Also reported are grain production for 1975, 1976, 1977, and 1978, the livestock consumption of grain for 1976 and 1977, and the surpluses (or deficits) for 1976 and 1977. Estimates of grain production for states outside the two regions are also included.

The production estimates precede annual surplus data by a year because the feed-grain crops harvested in one year are consumed by livestock mostly during the following year. In terms of U.S. production in 1978, projections are made for the states that comprise 88 percent of the total for corn, 81 percent for wheat, and 93 percent for soybeans.

Methodology

Data collection and analysis were organized under two regional research committees — S-115 and NC-137 (see the Preface). The committee representative from each state was responsible for the projections for that state. Similar projection procedures and models were used by each state. Individual variations and interpretations were permitted when knowledge about the industry indicated that the mechanical estimates could be improved by judgmental adjustments.

To make the estimates from different states comparable, state and national production totals provided by the National Interregional Agricultural Projections (NIRAP) System were used as a basis for substate allocations for 1985, 1990, and 2000. The NIRAP model was developed by the Economic Research Service, USDA. The projection procedure employed by the majority of states was to calculate the annual share of state or national production for each substate region. Production projections for states outside those represented on the two regional committees are the NIRAP estimates.

The annual share for each year, 1960 through 1975, was used to calculate a trend line, following an equation of the general form $Y = ab^t$. This trend line was used to project shares of national totals for 1985, 1990, and 2000. The percentage for each substate region for each grain was multiplied by its respective state or national total provided by the baseline projections from the NIRAP series of July 14, 1978. A linear trend was used to obtain projected production for the preceding year by time period. Deviations from the procedure are noted in the accompanying tables.

Only state production projections are reported in this publication. Substate projections are available on request from the participating states.

Estimates for grain consumption were obtained by multiplying the projected livestock numbers by the annual grain consumption per animal. Livestock figures were not tabulated for the state and substate regions because data from the individual states did not permit a consistent set of classifications for livestock.

Each state projected livestock numbers according to its own statistical series. Most states based their state totals on NIRAP estimates for meat, milk, and egg production. Rations were then developed that represented annual consumption by each class of livestock. The result was an estimate for the amount of each grain consumed by all livestock. Data on the rations and on livestock projections are available from the participating states.

Subtracting the quantity of each grain consumed by livestock from the quantity produced provided an estimate of the surplus or deficit for each state. Since the surpluses enter commercial channels, these quantities create a demand for transportation and marketing services and facilities. The demand for marketing and transportation services may be underestimated, however, because some of the grain consumed by livestock in the region where grain is produced also moves through commercial channels, although generally only for short distances.

Projections of historical trends are based on the restrictive assumption that past relationships will continue into the future. Such an assumption is an especially risky one with livestock numbers and rations. Price relationships and cyclical production patterns may alter the consumption of any one grain significantly in relation to a linear trend line. The numbers given are *projections,* not *predictions.* They indicate overall trends, rather than providing specific estimates for each year.

Using the baseline NIRAP estimates (July 14, 1978) created some projected values that are below current production as a result of the assumptions about domestic demand, export demand, supply, price relationships, technology, and weather used in the model. For example, the production of corn during 1978 in Michigan was 182 million bushels, 15 million above the NIRAP estimate for 1989. The NIRAP figures were used, though, to produce consistent estimates for all states. The production capacity of the United States probably exceeds the NIRAP projections for all grains, but actual production in the future is likely to be controlled by relative profitability and by political decisions that will determine the domestic and the export demand as well as the supply.

Results

Changes in Grain Production

Corn. Corn production is expected to increase by 2.659 billion bushels between the mid-1970's (based on an average of the production for 1975 to 1978) and 1999. Table 1 shows the figures for corn production in 1975, 1976, 1977, and 1978 along with the projected production figures for 1984, 1989, and 1999. The four-year average for 1975 through 1978 is also included. The average is referred to as the "mid-1970's average production." Figure 1 shows the regions that were used for the projections of grain production. Figures 2 and 3 show how the concentration of corn production will change between 1978 and 1999.

The six largest corn-producing states in the mid-1970's were Illinois, Indiana, Iowa, Nebraska, Minnesota, and Ohio. In those states, 70.7 percent of the U.S. corn crop was harvested. The projections for 1984 show those six states producing 71.2 percent of the crop, with the concentration of production decreasing slightly in subsequent periods. By 1989, projections are that the six-state region will produce 70.9 percent of the corn crop; by 1999, 70.6 percent of the crop. Corn production in the delta region is likely to decrease by 1999. In the projections, Colorado, Arizona, Oregon, New Mexico, and Tennessee all show production decreases, too.

The largest increases in corn production between the mid-1970's and 1999 are projected for the Northern Plains. An increase of 156.7 million bushels (100.5 percent) in corn production is projected for Kansas; 696.7 million bushels (115.8 percent) for Nebraska; 170 million bushels (91.7 percent) for Missouri; and 173.6 million bushels (47.1 percent) for Ohio.

The projections for Illinois show an increase in corn production between the mid-1970's and 1999 of 269.4 million bushels (22.3 percent); Indiana, 91.6 million bushels (14.6 percent); and Iowa, 370.8 million bushels (30.8 percent). However, five Corn Belt states — Illinois, Iowa, Indiana, Missouri, and Ohio — are expected to decrease their relative share of total U.S. production from 56.4 to 51.7 percent during the same period, with the states in the Northern Plains increasing their relative share of corn production from 13.7 to 19.3 percent.

Soybeans. Soybean production is expected to increase by 1.422 billion bushels between the mid-1970's (based on an average of the production for 1975 to 1978) and 1999. The projections show all of the states in the North Central Region and the Southern Region increasing their production of soybeans (Table 2). As Figures 4 and 5 reveal, the concentration of production is projected to decrease between 1978 and 1999. The four largest soybean-growing states (Illinois,

Regions used for the projections of grain production. (Fig. 1)

Indiana, Iowa, and Missouri) produced 49.4 percent of the crop in the mid-1970's. Those states are expected to produce 47.4 percent of the crop by 1984, 47.2 percent by 1989, and 47.8 percent by 1999.

Soybean production has increased rapidly through the United States in recent years, with the greatest growth in the Southern States. Alabama is projected to increase soybean production by 39.4 million bushels (116.4 percent) between the mid-1970's and 1999; Georgia, by 80.3 million bushels (317.2 percent); Kentucky, by 68.1 million bushels (189.3 percent); and Louisiana, by 89.4 million bushels (146 percent). Arkansas, Mississippi, North Carolina, and South Carolina are also expected to have large increases in soybean production.

Wheat. Wheat production is expected to increase by 864 million bushels between the mid-1970's and 1999. Figures 6 and 7 show the changes expected in the concentration of wheat production between 1978 and 1999. The four largest wheat-growing states (Kansas, Montana, North Dakota, and Oklahoma) produced 44.8 percent of the crop in the mid-1970's (Table 3). Those four states are expected to produce 45.7 percent of the crop in 1984, 45.5 percent in 1989, and 45.5 percent in 1999. In the projections, Kansas and North Dakota both show large increases in production — 204.9 million bushels (61.4 percent) and 105.5 million bushels (39.5 percent), respectively.

The relative share of wheat production in the Northern Plains is projected to increase from 37.2 percent in the mid-1970's to 40.1 percent by 1999. The Mountain States are also expected to have a larger relative share, increasing from 15.3 to 15.6 percent of the total U.S. production during the same period.

Wheat production in several states is expected to increase greatly between the mid-1970's and 1999. In the projections, Minnesota's production is shown as increasing by 73.9 million bushels (66.6 percent); Nebraska's, by 79.6 million bushels (84.4 percent); and Colorado's, by 46.2 million bushels (82.6 percent). A decrease in wheat production of 10.4 million bushels (17.2 percent) is expected for Illinois and one of 8.6 million bushels (13.6 percent) for Idaho.

Oats. Oat production is expected to increase by 13 million bushels between the mid-1970's (average figure) and 1999. Table 4 shows that the five major oat-growing states (Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin) produced an average of 64.3 percent of the crop from 1975 to 1978. By 1984, those states are expected to produce 62.4 percent of the crop. The relative share grown in those states shows a projected decrease in 1989 and 1999 to 59.6 percent and 56.3 percent, respectively.

Oat production in the Lake States also seems likely to decline. For Minnesota, the state that now produces more oats than any other, oat production is expected to drop by 81.4 million bushels (70.9 percent) between the mid-1970's and 1999. This change accounts for much of the decreased concentration of oat production among the five major states. A slight decrease is expected in North Dakota. For Wisconsin, a relatively large increase in oat production is projected by 1999 — 11.3 million bushels (16.9 percent).

The states in the Northern Plains should increase their relative share of oat production, from 29.3 percent in the mid-1970's to 33.9 percent in 1999. Several of the other regions that produce relatively small amounts of oats are also likely to show larger shares

of the total. For example, oat production as a proportion of U.S. output is projected to increase from 6.2 to 7.7 percent in the Northeast, from 1.2 to 1.8 percent in the Southeast, and from 2.5 to 4.2 percent in the Mountain States over the same period.

Barley. Barley production is expected to increase by 175 million bushels between the mid-1970's and 1999. The five largest barley-growing states in the mid-1970's (North Dakota, California, Minnesota, Montana, and Idaho) produced 69.9 percent of the crop (Table 5). In the projected data, the concentration of production decreases slightly. The five major states are expected to produce 65.7 percent of the crop in 1984, 65.4 percent in 1989, and 65.1 percent in 1999. By 1999, an increase of 41.2 million bushels (78 percent) is expected in Montana and one of 29.9 million bushels (55.4 percent) in California.

Several sections of the United States show substantial increases in their projected share of U.S. barley production between the mid-1970's and 1999: the Mountain States, moving from 32.3 to 36.8 percent; the Appalachian States, from 2.2 to 3.6 percent; and the Northeastern States, from 3 to 4.4 percent.

Grain Sorghum. The production of grain sorghum is expected to increase by 595 million bushels between the mid-1970's and 1999. Figures 8 and 9 present that pattern of change. The three major states for grain sorghum are Texas, Kansas, and Nebraska. They produced an average of 79.7 percent of the U.S. crop from 1975 to 1978 (Table 6). Those same states are likely to remain the leaders. The projections show them producing 76.9 percent of the crop in 1984, 75.6 percent in 1989, and 75.7 percent in 1999.

For the three states, the projected increases are: Texas, 301.5 million bushels (107.1 percent); Kansas, 102.2 million bushels (53.4 percent); and Nebraska, 16.4 million bushels (12.9 percent). Grain sorghum is an important crop in those relatively dry sections of the country, competing with corn for row-crop acreage when price relationships are favorable.

The only decrease in the production of grain sorghum projected from the mid-1970's to 1999 is for California. There, production is expected to decline by 2.9 million bushels (22.1 percent).

Livestock Consumption

Corn. Table 7 gives the figures on corn consumption by livestock for the states in the Southern and North Central Regions. The largest consumption of corn is now in Iowa where over 400 million bushels were fed to livestock in 1977. More than 200 million bushels were fed in Minnesota and Indiana, followed by Illinois, Georgia, Nebraska, Ohio, Texas, and Missouri (between 100 and 200 million bushels each). Decreases in the quantity of corn fed to livestock are projected for Ohio and North Dakota. Although total consumption is expected to rise between 1977 and 2000, the greatest increases are predicted for Minnesota and Texas.

Wheat. The use of wheat for livestock feed depends on price ratios and on the class of wheat. In most recent years, wheat has been priced above its feeding value in relation to corn. The projected feed use of wheat shown in Table 8, therefore, is of limited value for any one year. Except for Illinois, Kansas, and Minnesota, the annual consumption of wheat for feed in any state is not expected to be above 10 million bushels by the year 2000.

Oats. The largest consumption of oats in 1977 was in Iowa, South Dakota, and Minnesota, where over 50 million bushels were fed to livestock (Table 9). However, the projections show a decrease in the utilization of oats in Minnesota so that by 2000, Iowa and South Dakota are the only states likely to use more than 50 million bushels. Indiana, Nebraska, and Montana show projected increases in oat consumption. However, the consumption of oats generally is adjusted to match current production. Oats may be substituted for other feed grains to adjust consumption to production in a particular locale. Decreases in the use of oats for feed to livestock are expected in Minnesota and North Dakota.

Barley. In Montana, more barley is fed to livestock than in any of the other states represented by the two regional committees (Table 10). In 1977, 25.8 million bushels of barley were fed in Montana. The projected increase is to 35.7 million bushels by 2000. In 1977, more than 5 million bushels of barley were fed in North Dakota and South Dakota. For Minnesota, Montana, North Dakota, Oklahoma, and South Dakota, the projections show more than 5 million bushels of barley being fed to livestock in each of those states by 2000.

Grain Sorghum. Growth in the feeding of grain sorghum is predicted primarily for the states now producing and feeding large volumes (Table 11). Kansas and Texas produce the most grain sorghum and are the largest users of it in livestock feed. The projections show no change in this pattern over the next 20 years. In general, the Southern States are expected to change little in their use of grain sorghum. Because of the ease with which grain sorghum can be substituted for corn, the relative quantity of those two grains fed in Kansas, Nebraska, and Texas is difficult to estimate without knowing future prices. The estimates of total feed use probably are more accurate than those for individual grains.

All Grains. Substitution among grains occurs frequently, depending on price relationships and availability. Since these shifts are difficult to predict, all feed grains were combined into a total consumption figure for each state by converting bushels into tons (Table 12). The different grains were not combined according to nutritional value because such ratios vary according to the class of livestock.

Overall, the projections for the consumption of feed grains reflect higher numbers of livestock and a greater concentration of production and feeding. In 1977, 48.2 percent of the feed grains consumed in the states listed in Table 12 were fed in Iowa, Indiana, Texas, Minnesota, and Kansas. By the year 2000, those five states (the largest ones in terms of using grain for livestock feeding) are expected to account for 42.4 percent of the total grain being fed.

Grain Surpluses or Deficits

The surplus or deficit for each grain by state was calculated by subtracting consumption from production. In surplus states, most grain that is not fed to livestock enters the commercial marketing channels, thus requiring transportation. Grain must be shipped into deficit states in order to meet the demand for consumption by livestock there.

Table 13 shows the surpluses or deficits of corn for selected Southern and North Central States for 1976 and 1977 and the projected surplus or deficit for 1985, 1990, and 2000. In general, the surplus or deficit increases as the production of both corn and livestock becomes more specialized. In the projections, the areas of concentrated livestock production gradually move away from the major corn-producing sections of the nation. Texas is the exception, changing from a state with a surplus of corn in 1976 and 1977 (2.2 and 59.4 million bushels, respectively) to one with a deficit of 22 million bushels in the year 2000. Substitutions between corn and grain sorghum would constitute the likely cause.

The surpluses or deficits of wheat in 1976 and 1977 and the projected surpluses or deficits in 1985, 1990, and 2000 are shown in Table 14. According to the predictions, the levels of surplus wheat will decrease in Illinois, Michigan, and Mississippi between 1977 and 2000. Those three states will also produce less wheat as other crops became relatively more important. In 1977, Georgia had a small wheat deficit; but by 2000, all of the states in the study are projected to have more wheat than would be required for feed. However, wheat is not a major feed grain.

Table 15 presents the surpluses or deficits for oats in 1976 and 1977 and the projected surpluses or deficits in 1985, 1990, and 2000. Several states are expected to reduce their surplus of oats as production decreases. Large declines in surplus supplies are shown for Indiana and Ohio. South Dakota probably will have a large increase in its surplus, caused by higher production there. Alabama, Georgia, Kentucky, Louisiana, Tennessee, Mississippi, and Oklahoma are expected to continue to have deficits. Arkansas is expected to change from a state with a small surplus to one with a small deficit. All of these states contain relatively large livestock-producing areas and have climatic conditions that are not well suited to the production of oats.

The surpluses or deficits of barley in 1976 and 1977 and the projected surpluses or deficits in 1985, 1990, and 2000 are shown in Table 16. The deficit for Kentucky is expected to become smaller as a result of projected increases in the production of barley there. Minnesota, Montana, and North Dakota are expected to have greater surpluses of barley between 1977 and 2000 because of projected increases in production. Texas is likely to change from a state with a small surplus of barley to one with a deficit as the consumption of barley by livestock increases.

The surpluses or deficits for grain sorghum are shown in Table 17. Kansas, Nebraska, and Texas are expected to have large surpluses. All of the states in the South, with the exception of Tennessee and Arkansas, show sorghum deficits. The projections show a large increase in the size of the surplus in Texas between 1977 and 2000, despite a continued growth in consumption of sorghum by livestock.

The projected surplus or deficit of individual grains is based on the assumption that price relationships will remain constant. The actual surplus or deficit of any one grain will differ according to the supply of a given grain in relation to the supplies of substitutes and their relative prices. Transportation costs encourage the adjustment of rations to utilize locally available grains. This is especially true of minor grains such as oats. The substitution of oats for other feed grains is related to local production. Thus, availability and price as well as trends in feeding practices should all be used to temper the historical projections.

Transportation Requirements

The volume of grain requiring transportation cannot be determined directly from the data on surpluses and deficits given in Tables 13 through 17. The surplus for one state provides for the deficit in another. In addition, only the requirements for livestock feed have been considered in calculating the consumption for each state. The surplus or deficit for any one state and for a given grain do indicate the volume that must be moved from the production areas. For example, even though some of the corn in Illinois is moved to Illinois processors rather than to a deficit state, one or more transport handlings are still required. The actual volume moved, the mode of transport involved, and the destination or origin of the grain are covered in other publications.

The surplus-deficit calculations given in the preceding sections of this publication were based on production, minus consumption by livestock. Inventory changes and in-state processing are not included in the projections. Historical trends are of limited value in projecting inventory, and detailed historical data are not available for the grain-processing industries. Data collected through personal interviews for the 1977 calendar year provided a basis for calculating a balance sheet that

includes inventory changes and processing, even though there is an inadequate basis for making projections. The balance sheets for each grain by state have been calculated only for 1977 to provide baseline data. These figures are shown in Tables 18 through 21.

An exportable surplus (or deficit) was calculated by adding the figures for stocks in all positions as of January 1, 1977, to the production for 1977 in order to obtain a figure for total supply. Disappearance was calculated by summing livestock consumption (based on livestock numbers times rations), seed use, processing use, and the figures for stocks in all positions as of January 1, 1978. Subtracting disappearance from supply gave a surplus (or deficit) figure by state for each grain.

These numbers represent interstate movements of grain that require rail, truck, and barge capacity. No attempt was made to sum these across states or to project the values into the future. The unknown shifts in export and processing locations and volumes make any projection extremely difficult.

Conclusions

An increasing volume of grain will require transportation facilities and services in the future as a result of higher production, greater specialization, and larger export demands. Technological advances have raised crop yields. Although increases in production may not continue at the rapid rate of the last several years, we should expect continued advances in technology. Increased irrigation has also raised the productivity of some land; however, rising energy costs and declining water tables may soon place limits on the continued expansion of irrigation. Economies of scale are also increasing the production of the various crops. Farmers are able to make better use of technological advances as their farms grow larger. Farm size has risen rapidly since World War II and probably will continue to do so. Farms also are becoming more specialized. Economies of scale come about not only from larger size, but also from increased specialization.

The results of this study show a trend toward greater specialization in livestock production over the next two decades, with some relative shifts among regions in the production of both crops and livestock. Consumption of all feed grains by livestock indicates that Minnesota is expected to have a larger share of total livestock production by 2000, while the eastern Corn Belt States will show slight changes in total feed consumption. The projections indicate that fewer livestock will be produced in the North Central States, with a relative increase in some Southern States.

For all crops but soybeans, the concentration of grain production measured by the percentage of production accounted for by the largest producing states is expected to decline by the year 2000. Higher corn production in the Northern Plains will reduce the relative importance of the Corn Belt. The production of oats will also shift from the Corn Belt and Lake States to the Northeast, the Northern Plains, and the Mountain States. Soybean production will increase rapidly in all areas, with particularly fast growth in the Southern States.

The demand for transportation capacity is expected to increase in order to handle the movements of grain between states with surpluses and deficits. Shifts in the areas with the greatest concentrations of livestock and grain production will require adjustments in marketing facilities and in modes of transport. Elevators no longer located on rail lines will need additional truck services. Production shifts into areas without access to water transportation will require changes in the combinations of destinations and origins. Increased export volumes will strengthen the demand for barge transportation and for the movement of grain by unit trains to the ports.

The projections for production and consumption provided in this publication are rough guidelines of the changes expected and the adjustments required. As additional information on demand and production technology becomes available, the estimates given here will need to be revised.

Table 1. — Corn Production: 1975, 1976, 1977, and 1978 and Projections for 1984, 1989, and 1999

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Northeast								
Connecticut[a]	...	...	...	...	...	...	...	...
Delaware[b]	14,990	15,640	17,160	10,360	16,800	15,739	16,142	17,160
Maine[a]	...	...	...	...	...	...	...	...
Maryland[b]	52,248	50,600	57,960	43,200	57,230	60,707	69,128	83,326
Massachusetts[a]	...	...	...	...	...	...	...	...
New Hampshire[a]	...	...	...	...	...	...	...	...
New Jersey[b]	7,719	6,723	8,858	6,650	8,645	6,809	7,439	8,381
New York[b]	46,846	45,235	43,548	51,200	47,400	42,205	48,846	60,739
Pennsylvania[b]	102,958	88,560	103,500	106,720	113,050	105,032	117,061	137,280
Rhode Island[a]	...	...	...	...	...	...	...	...
Vermont[a]	...	...	...	...	...	...	...	...
	224,760	206,758	231,025	218,130	243,125	230,492	258,616	306,886
Lake States								
Michigan[d]	168,423	152,792	141,450	197,200	182,250	155,222	167,071	203,832
Minnesota[c]	495,390	407,400	330,400	600,000	643,760	651,346	701,820	764,509
Wisconsin[b]	227,508	198,370	150,960	291,200	269,500	219,315	242,053	279,590
	891,321	758,562	622,810	1,088,400	1,095,510	1,025,883	1,110,944	1,247,931
Corn Belt								
Illinois[d]	1,212,130	1,253,960	1,240,130	1,163,400	1,191,030	1,205,402	1,319,145	1,481,576
Indiana[c]	628,840	551,740	692,999	633,420	637,200	613,750	635,455	720,415
Iowa[d]	1,205,075	1,091,700	1,173,900	1,092,200	1,462,500	1,274,040	1,386,891	1,575,898
Missouri[c]	184,188	170,100	173,850	201,400	191,400	274,100	300,536	353,140
Ohio[d]	368,423	321,080	393,460	380,100	379,050	434,829	468,000	542,000
	3,598,656	3,388,580	3,674,339	3,470,520	3,861,180	3,802,121	4,110,027	4,673,029
Northern Plains								
Kansas[d]	155,970	137,760	171,840	161,280	153,000	204,772	243,545	312,659
Nebraska[d]	601,609	503,237	514,600	648,450	740,150	863,410	1,001,702	1,298,347
North Dakota[d]	13,017	7,140	7,640	17,301	19,987	11,299	12,366	14,153
South Dakota[c]	104,705	83,251	37,200	126,850	171,520	115,147	113,745	116,632
	875,302	731,388	731,280	953,881	1,084,657	1,194,628	1,371,358	1,741,791
Appalachia								
Kentucky[d]	119,663	87,800	138,700	132,300	119,850	140,000	155,000	180,000
North Carolina[b]	116,818	106,530	150,400	88,740	121,600	126,424	138,185	157,314
Tennessee[d]	46,091	36,900	56,455	47,450	43,560	38,030	39,792	42,302
Virginia[b]	44,633	49,720	47,580	30,800	50,430	51,456	57,197	66,084
West Virginia[b]	4,839	5,525	5,368	3,996	4,466	5,075	5,544	6,305
	332,044	286,475	398,503	303,286	339,906	360,985	395,718	452,005
Southeast								
Alabama[d]	29,769	33,000	48,000	10,875	27,200	26,400	28,125	33,750
Florida[b]	18,845	16,875	28,800	10,465	19,240	20,236	21,967	24,902
Georgia[d]	84,080	103,400	133,920	24,000	75,000	107,923	119,307	138,318
South Carolina[b]	35,462	37,400	49,358	24,840	30,250	32,827	35,792	42,222
	168,156	190,675	260,078	70,180	151,690	187,386	205,191	239,192
Delta Area								
Arkansas[d]	2,110	1,900	2,520	2,279	1,740	2,120	2,136	2,634
Louisiana[d]	2,946	2,250	3,380	3,380	2,773	2,572	2,126	1,423
Mississippi[d]	6,837	5,945	8,084	5,760	7,560	5,502	4,932	3,792
	11,893	10,095	13,984	11,419	12,073	10,194	9,194	7,849
Southern Plains								
Oklahoma[c]	7,471	7,280	10,070	7,790	4,745	5,908	6,757	8,458
Texas[d]	149,750	113,300	180,000	161,700	144,000	148,653	166,347	197,519
	157,221	120,580	190,070	169,490	148,745	154,561	173,105	205,977

(cont'd)

Table 1, continued/Corn Production and Projections

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
Mountain Region				*bushels (000)*				
Arizona[b]	3,207	396	1,680	5,000	5,750	642	702	718
Colorado[b]	68,900	51,520	64,260	80,620	79,200	51,263	57,969	68,241
Idaho[b]	2,817	2,490	2,975	2,408	3,393	2,762	3,018	3,432
Montana[d]	666	730	825	748	360	899	1,052	1,277
Nevada[a]	...	...	...	...	...	...	...	...
New Mexico[b]	8,850	7,500	10,080	10,260	7,560	4,561	5,685	8,141
Utah[b]	1,309	1,290	1,350	1,157	1,440	2,634	3,299	4,470
Wyoming[b]	2,205	1,600	1,914	2,550	2,754	7,402	8,479	10,371
	87,954	65,526	83,084	102,743	100,457	70,163	80,204	96,650
Pacific Coast								
California[b]	30,911	27,686	31,900	28,652	35,406	42,720	52,285	64,729
Oregon[b]	989	680	900	1,140	1,235	835	842	878
Washington[b]	5,931	3,536	4,708	7,616	7,865	5,203	5,825	6,943
	37,831	31,902	37,508	37,408	44,506	48,758	58,952	72,550
U.S. Total	6,385,138	5,790,541	6,242,681	6,425,457	7,081,849	7,085,171	7,773,309	9,043,860

[a] Little or no corn production in the state, at present or expected. [b] State did not provide estimates. Estimates based on NIRAP series issued July 14, 1978 and USDA production data. [c] Estimates based on NIRAP series issued March 10, 1975. [d] Revised estimates based on NIRAP series issued July 14, 1978.

Table 2. — Soybean Production: 1975, 1976, 1977, and 1978 and Projections for 1984, 1989, and 1999

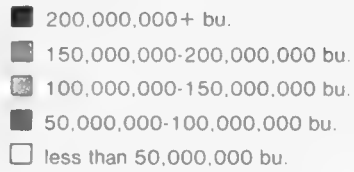
	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
Northeast				*bushels (000)*				
Connecticut[a]	...	...	...	...	...	...	...	...
Delaware[b]	5,701	5,625	4,920	5,400	6,860	5,184	5,974	7,335
Maine[a]	...	...	...	...	...	...	...	...
Maryland[b]	9,108	9,240	7,375	8,775	11,040	10,798	12,839	16,626
Massachusetts[a]	...	...	...	...	...	...	...	...
New Hampshire[a]	...	...	...	...	...	...	...	...
New Jersey[b]	4,332	2,652	4,248	4,248	6,180	2,465	3,022	4,034
New York[b]	388	297	312	437	506	509	679	1,039
Pennsylvania[b]	1,734	1,456	1,450	2,077	1,953	2,348	3,116	4,798
Rhode Island[a]	...	...	...	...	...	...	...	...
Vermont[a]	...	...	...	...	...	...	...	...
	21,263	19,270	18,305	20,937	26,539	21,304	25,630	33,832
Lake States								
Michigan[d]	17,061	15,861	11,583	21,600	19,200	19,105	18,779	19,121
Minnesota[c]	110,231	98,550	66,440	133,835	142,100	109,536	113,393	118,439
Wisconsin[b]	5,556	5,279	3,344	6,720	6,880	6,064	7,286	9,597
	132,848	119,690	81,367	162,155	168,180	134,705	139,458	147,157
Corn Belt								
Illinois[d]	296,243	295,920	249,480	336,300	303,270	318,705	355,088	447,703
Indiana[d]	129,461	121,605	111,520	144,300	140,420	153,428	180,285	228,276
Iowa[d]	243,793	236,980	199,950	251,340	286,900	313,085	377,528	502,696
Missouri[c]	125,456	113,985	84,000	148,800	155,040	177,646	212,441	270,967
Ohio[d]	110,270	102,300	95,040	119,900	123,750	175,000	200,000	225,000
	905,223	870,790	739,990	1,000,730	1,009,380	1,137,864	1,325,342	1,674,642

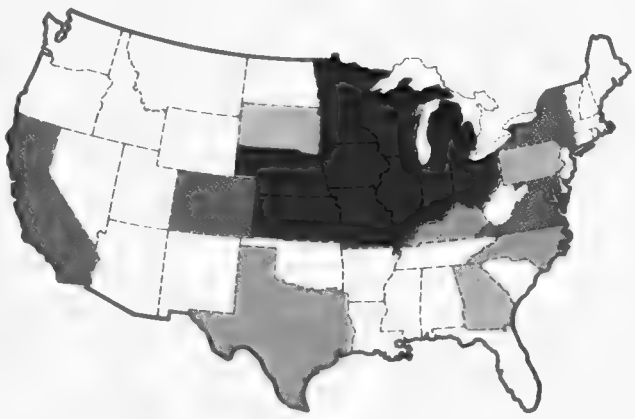
(cont'd)

Table 2, continued/Soybean Production and Projections

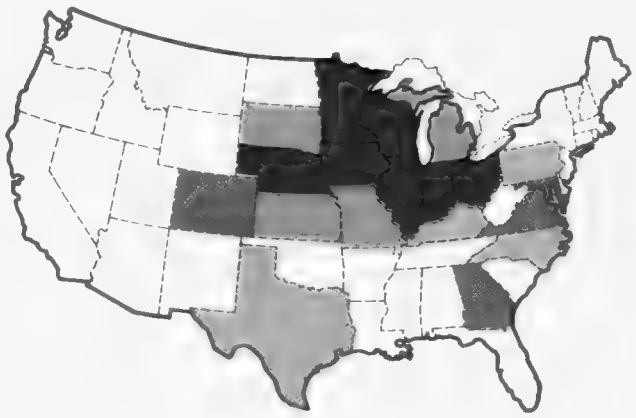
	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Northern Plains								
Kansas[d]	22,358	22,140	12,975	28,215	26,100	30,820	32,576	36,066
Nebraska[d]	34,045	32,400	20,600	40,680	42,500	39,089	49,337	67,674
North Dakota[d]	3,251	2,906	1,838	3,500	4,758	3,777	3,987	4,443
South Dakota[c]	9,620	8,550	8,425	9,608	11,895	11,022	12,946	17,323
	69,274	65,996	43,838	82,003	85,253	84,708	98,846	125,506
Appalachia								
Kentucky[d]	35,980	31,800	28,900	40,920	42,300	47,000	65,700	104,100
North Carolina[b]	31,063	33,370	24,640	29,040	37,200	45,580	59,744	83,957
Tennessee[d]	48,716	45,325	40,500	52,170	56,870	62,100	67,200	79,750
Virginia[b]	9,951	10,825	8,159	8,360	12,460	12,324	14,385	18,063
West Virginia[a]	...	...	...	...	...	...	...	...
	125,710	121,320	102,199	130,490	148,830	167,004	207,029	285,870
Southeast								
Alabama[d]	33,863	30,870	28,080	33,600	42,900	63,840	68,856	73,280
Florida[b]	7,774	6,744	6,578	8,175	9,600	12,520	16,471	24,848
Georgia[d]	25,309	29,580	20,455	21,800	29,400	50,960	68,810	105,595
South Carolina[b]	27,693	30,360	21,420	26,650	32,340	37,169	49,200	66,964
	94,639	97,554	76,533	90,225	114,240	164,489	203,337	270,687
Delta Area								
Arkansas[d]	104,545	117,500	82,080	105,800	112,800	123,243	145,259	183,376
Louisiana[d]	61,245	48,000	63,000	62,980	71,000	91,911	111,496	150,666
Mississippi[d]	75,469	70,200	71,500	78,475	81,700	87,845	100,405	125,525
	241,259	235,700	216,580	247,255	265,500	302,999	357,160	459,567
Southern Plains								
Oklahoma[b]	5,972	5,214	5,500	7,820	5,355	6,671	8,036	10,605
Texas[d]	14,399	9,065	9,022	20,140	19,370	13,002	16,947	25,016
	20,371	14,279	14,522	27,960	24,725	19,673	24,983	35,621
Mountain Region[a]								
Pacific Coast[a]								
U.S. Total	1,610,587	1,544,599	1,293,334	1,761,755	1,842,647	2,032,746	2,381,785	3,032,882

[a] Little or no soybean production in the state, at present or expected. [b] State did not provide estimates. Estimates based on NIRAP series issued July 14, 1978 and USDA production data. [c] Estimates based on NIRAP series issued March 10, 1975. [d] Revised estimates based on NIRAP series issued July 14, 1978.

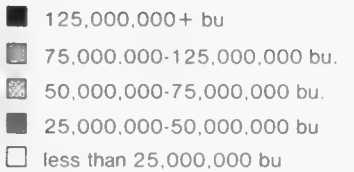


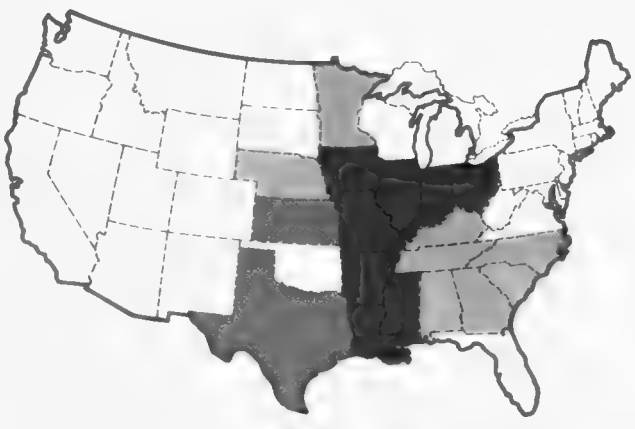


1999/U.S. corn production. **(Fig. 3)**

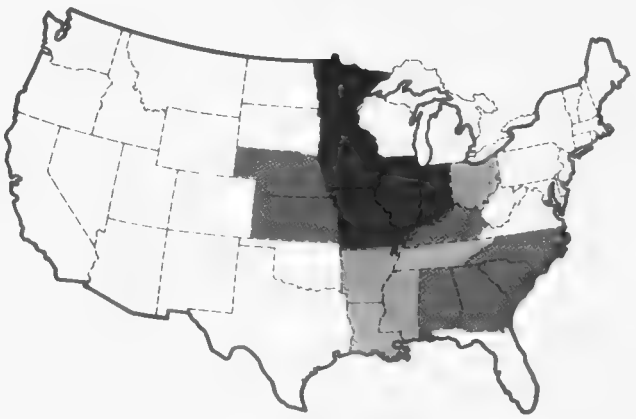


1978/corn production in the United States. **(Fig. 2)**

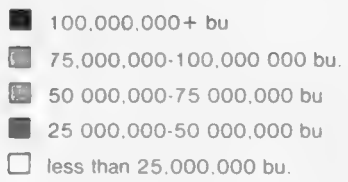


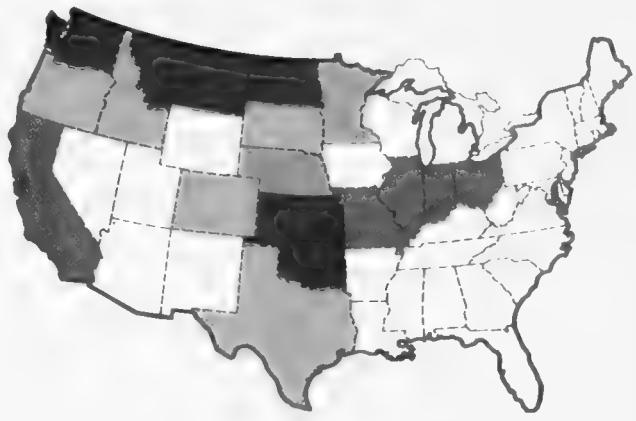


1999/U.S. soybean production. **(Fig. 5)**

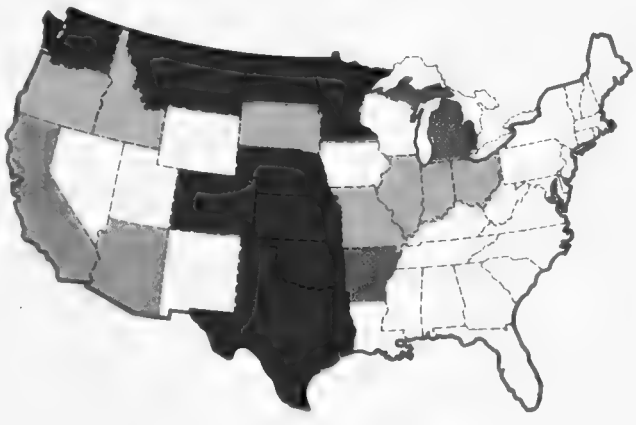


1978/soybean production in the United States. **(Fig. 4)**



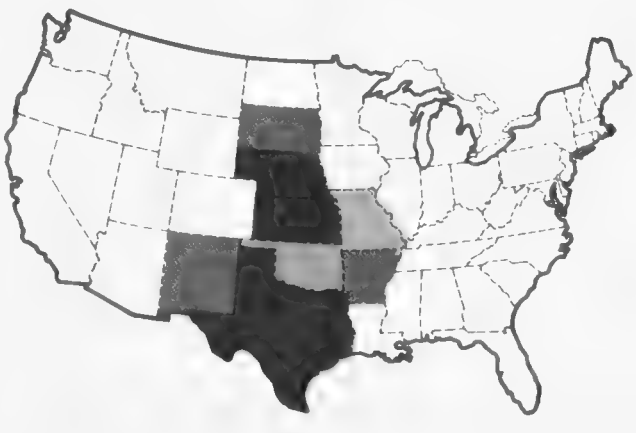


1978/wheat production in the United States. (Fig. 6)



1999/U.S. wheat production. (Fig. 7)

1978/grain sorghum production in the United States. (Fig. 8)



1999/U.S. production of grain sorghum. (Fig. 9)

Table 3. — Wheat Production: 1975, 1976, 1977, and 1978 and Projections for 1984, 1989, and 1999

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Northeast								
Connecticut[a]	...	...	...	...	...	...	...	...
Delaware[b]	1,298	1,734	1,400	1,050	1,008	1,248	1,424	1,778
Maine[a]	...	...	...	...	...	...	...	...
Maryland[b]	4,716	5,304	5,244	4,320	3,996	4,188	5,960	7,052
Massachusetts[a]	...	...	...	...	...	...	...	...
New Hampshire[a]	...	...	...	...	...	...	...	...
New Jersey[b]	1,686	1,944	2,310	1,302	1,188	1,789	1,817	1,926
New York[b]	6,075	8,200	6,650	6,825	2,625	6,387	6,905	7,763
Pennsylvania[b]	9,035	10,144	9,000	8,910	8,085	9,644	10,224	11,082
Rhode Island[a]	...	...	...	...	...	...	...	...
Vermont[a]	...	...	...	...	...	...	...	...
	22,810	27,326	24,604	22,407	16,902	23,256	26,330	29,601
Lake States								
Michigan[d]	31,845	38,760	37,620	33,000	18,000	33,363	33,018	33,584
Minnesota[d]	110,992	88,368	130,482	131,894	93,225	125,165	143,805	184,886
Wisconsin[b]	2,673	2,820	3,238	3,075	1,560	2,559	2,931	3,585
	145,511	129,948	171,340	167,969	112,785	161,087	179,754	222,055
Corn Belt								
Illinois[d]	60,618	67,470	72,150	67,510	35,340	48,539	47,444	50,213
Indiana[c]	50,797	61,600	54,002	55,800	31,785	55,261	56,860	59,032
Iowa[d]	3,422	3,400	4,550	4,033	1,705	2,686	3,077	3,763
Missouri[c]	50,948	48,510	58,080	68,640	28,560	53,909	56,078	59,389
Ohio[d]	63,649	74,340	64,000	72,380	43,875	69,700	71,500	74,700
	229,434	255,320	252,782	268,363	141,265	230,095	234,959	247,097
Northern Plains								
Kansas[d]	333,738	345,100	339,000	344,850	306,000	379,320	435,980	538,620
Nebraska[d]	94,273	98,240	94,000	103,250	81,600	119,172	138,809	173,884
North Dakota[d]	267,049	264,392	287,830	229,907	286,065	292,002	313,344	372,592
South Dakota[c]	60,195	63,294	39,520	71,964	66,000	68,347	69,968	74,049
	755,255	771,026	760,350	749,971	739,665	858,841	958,101	1,159,145
Appalachia								
Kentucky[d]	9,783	11,968	10,200	10,138	6,825	11,200	13,200	16,800
North Carolina[b]	6,856	8,525	6,960	6,000	5,940	9,602	10,926	13,245
Tennessee[d]	9,946	9,610	12,395	10,080	7,700	12,309	14,802	19,585
Virginia[b]	7,128	9,052	7,680	6,355	5,425	10,617	12,477	15,882
West Virginia[b]	328	352	352	310	297	360	339	267
	34,041	39,507	37,587	32,883	26,187	44,088	51,744	65,779
Southeast								
Alabama[d]	2,256	2,520	2,295	2,520	1,690	2,012	2,132	2,270
Florida[b]	389	325	420	377	432	825	896	1,007
Georgia[c]	3,588	3,645	3,565	3,300	3,840	4,737	5,669	7,496
South Carolina[b]	3,022	3,510	3,250	2,755	2,574	4,611	5,451	6,993
	9,255	10,000	9,530	8,952	8,536	12,185	14,148	17,766
Delta Area								
Arkansas[d]	19,903	18,200	24,570	25,740	11,100	18,442	21,901	28,320
Louisiana[d]	619	256	759	850	612	782	748	694
Mississippi[d]	3,811	4,440	5,220	3,570	2,015	3,847	4,014	4,032
	24,333	22,896	30,549	30,160	13,727	23,071	26,663	33,046
Southern Plains								
Oklahoma[c]	158,325	160,800	151,200	175,500	145,800	172,672	186,463	213,001
Texas[d]	101,500	131,100	103,400	117,500	54,000	101,458	122,901	157,761
	259,825	291,900	254,600	293,000	199,800	274,130	309,364	370,762

(cont'd)

Table 3, continued/Wheat Production and Projections

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Mountain Region								
Arizona[b]	17,566	18,200	32,325	10,080	9,660	31,332	44,770	77,453
Colorado[b]	55,989	56,263	53,200	57,225	57,268	68,946	80,747	102,223
Idaho[b]	63,458	60,050	68,320	50,730	74,730	47,586	49,664	54,816
Montana[d]	150,048	155,925	167,295	130,920	146,050	140,325	159,046	191,262
Nevada[b]	1,649	1,820	1,677	1,560	1,540	973	1,090	1,303
New Mexico[b]	8,256	11,400	6,825	9,137	5,662	6,535	7,436	8,978
Utah[b]	6,000	7,164	6,519	4,716	5,599	6,006	6,154	6,163
Wyoming[b]	7,365	8,277	7,955	5,620	7,606	7,402	8,479	10,371
	310,331	319,099	344,116	269,988	308,115	309,105	357,386	452,569
Pacific Coast								
California[b]	52,622	61,241	59,720	43,700	45,825	49,701	65,411	85,927
Oregon[b]	54,472	58,040	60,301	47,620	51,925	47,586	53,298	62,223
Washington[b]	131,804	147,880	144,050	101,305	133,980	120,550	130,823	148,150
	238,898	267,161	264,071	192,625	231,730	217,837	249,532	296,300
U.S. Total	2,029,693	2,134,183	2,149,529	2,036,318	1,798,712	2,153,694	2,407,981	2,894,120

[a] Little or no wheat production in the state, at present or expected. [b] State did not provide estimates. Estimates based on NIRAP series issued July 14, 1978. [c] Estimates on NIRAP series issued March 10, 1975. [d] Revised estimates based on NIRAP series issued July 14, 1978.

Table 4. — Oat Production: 1975, 1976, 1977, and 1978 and Projections for 1984, 1989, and 1999

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Northeast								
Connecticut[a]	...	...	...	...	...	...	...	...
Delaware[b]	([a])	([a])	([a])	([a])	([a])	928	97	101
Maine[b]	1,707	1,550	1,400	1,500	2,376	1,736	1,861	2,136
Maryland[b]	1,204	1,176	1,210	1,188	1,242	1,595	1,742	2,036
Massachusetts[a]	...	...	...	...	...	...	...	...
New Hampshire[a]	...	...	...	...	...	...	...	...
New Jersey[b]	368	294	408	387	384	281	290	310
New York[b]	17,699	20,400	17,325	15,370	17,700	19,787	20,980	23,671
Pennsylvania[b]	18,638	19,875	18,105	18,550	18,020	18,431	19,521	21,979
Rhode Island[a]	...	...	...	...	...	...	...	...
Vermont[b]	([a])	([a])	([a])	([a])	([a])	91	89	84
	39,616	43,295	38,448	36,995	39,722	42,849	44,580	50,317
Lake States								
Michigan[d]	19,894	20,720	19,635	18,700	20,520	19,682	19,715	20,069
Minnesota[d]	114,855	104,000	94,760	161,840	98,820	88,389	70,081	33,465
Wisconsin[b]	67,015	74,250	55,040	76,050	62,720	87,864	70,985	78,334
	201,764	198,970	169,435	256,590	182,060	195,935	160,781	131,868
Corn Belt								
Illinois[d]	21,302	26,647	22,420	20,740	15,400	22,423	22,316	22,454
Indiana[c]	9,859	12,375	10,200	7,950	8,910	11,002	10,683	10,471
Iowa[d]	77,548	78,540	82,600	82,350	66,700	78,467	82,519	91,780
Missouri[c]	4,480	3,898	5,440	7,250	1,330	3,455	2,789	1,694
Ohio[d]	27,045	30,500	28,500	24,780	24,400	28,000	26,900	26,100
	140,234	151,960	149,160	143,070	116,740	143,347	145,207	152,499

(cont'd)

Table 4, continued/Oat Production and Projections

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Northern Plains								
Kansas[d]	6,723	4,360	8,400	9,450	4,680	6,660	7,079	8,128
Nebraska[d]	29,595	28,910	27,720	40,600	21,150	34,494	39,422	49,310
North Dakota[d]	56,723	56,170	44,840	60,000	65,880	59,889	55,517	49,580
South Dakota[c]	93,946	98,120	42,600	132,300	102,765	94,016	100,820	113,394
	186,987	187,560	123,560	242,350	194,475	195,059	202,838	220,412
Appalachia								
Kentucky[d]	327	400	300	315	294	300	200	200
North Carolina[b]	4,054	4,080	3,760	3,150	5,225	4,490	4,726	5,260
Tennessee[d]	1,210	1,200	1,440	1,075	1,125	1,286	1,325	1,432
Virginia[b]	1,432	1,125	1,488	1,496	1,620	2,003	2,129	2,404
West Virginia[b]	559	611	630	492	504	661	707	804
	7,582	7,416	7,618	6,528	8,768	8,740	9,087	10,100
Southeast								
Alabama[d]	1,049	1,044	925	1,025	1,200	1,251	1,275	1,320
Florida[b]	544[e]	492	600	540	([a])	815	968	1,340
Georgia[d]	3,002	2,632	3,180	2,750	3,445	3,829	4,145	4,850
South Carolina[b]	3,074	2,940	2,925	2,530	3,900	3,275	3,468	3,903
	7,669	7,108	7,630	6,845	8,545	9,170	9,856	11,413
Delta Area								
Arkansas[d]	3,536	2,340	4,290	3,500	4,015	5,361	5,954	7,229
Louisiana[d]	326[e]	222	378	378	([a])	260	161	4
Mississippi[d]	874[e]	1,080	956	585	([a])	946	996	998
	4,736	3,642	5,624	4,463	4,015	6,567	7,111	8,231
Southern Plains								
Oklahoma[c]	4,339	3,230	4,725	5,980	3,420	3,456	3,282	2,810
Texas[d]	17,923	19,500	14,430	24,000	13,760	15,542	16,923	19,881
	22,262	22,730	19,155	29,980	17,180	18,998	20,205	22,691
Mountain Region								
Arizona[a]	...	...	...	...	...	...	...	...
Colorado[b]	1,878	1,974	2,350	1,426	1,760	2,087	2,173	2,387
Idaho[b]	2,662	2,538	2,408	2,565	3,136	3,303	3,483	3,887
Montana[d]	8,624	10,750	7,536	5,600	10,608	12,627	14,096	17,222
Nevada[b]	176[e]	165	144	220	([a])	134	141	167
New Mexico[a]	...	...	...	...	...	...	...	...
Utah[b]	635	728	684	550	576	745	781	863
Wyoming[b]	2,236	2,050	2,438	1,710	2,744	2,453	2,589	2,889
	16,211	18,205	15,560	12,071	18,824	21,349	23,263	27,415
Pacific Coast								
California[b]	5,016	4,770	4,900	5,304	5,088	5,699	6,214	7,329
Oregon[b]	4,237	3,696	3,850	5,200	4,200	4,511	4,763	5,344
Washington[b]	1,804	1,890	1,960	1,505	1,860	2,979	3,111	3,434
	11,057	10,356	10,710	12,009	11,148	13,189	14,088	16,107
U.S. Total	638,118	651,242	546,900	750,901	601,477	655,203	637,016	651,053

[a] Little or no oat production in the state, at present or expected. [b] State did not provide estimates. Estimates based on NIRAP series issued July 14, 1978. [c] Estimates based on NIRAP series issued March 10, 1975. [d] Revised estimates based on NIRAP series issued July 14, 1978. [e] Three-year average.

Table 5. — Barley Production: 1975, 1976, 1977, and 1978 and Projections for 1984, 1989, and 1999

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Northeast								
Connecticut[a]	...	...	...	...	...	...	...	...
Delaware[b]	1,123	1,269	1,200	968	1,056	1,367	1,564	2,003
Maine[a]	...	...	...	...	...	...	...	...
Maryland[b]	3,985	4,275	4,410	3,430	3,825	6,022	6,765	8,420
Massachusetts[a]	...	...	...	...	...	...	...	...
New Hampshire[a]	...	...	...	...	...	...	...	...
New Jersey[b]	847	672	980	816	920	1,247	1,377	1,672
New York[b]	427	450	396	440	420	639	691	813
Pennsylvania[b]	6,000	6,500	5,375	6,250	5,875	9,763	10,787	13,112
Rhode Island[a]	...	...	...	...	...	...	...	...
Vermont[a]	...	...	...	...	...	...	...	...
	12,382	13,166	12,361	11,904	12,096	19,038	21,184	26,020
Lake States								
Michigan[b]	889	799	874	988	893	1,063	1,125	1,276
Minnesota[d]	43,226	30,590	35,260	55,080	51,975	45,548	48,504	52,443
Wisconsin[b]	1,419	1,505	1,280	1,566	1,323	1,706	1,876	2,260
	45,534	32,894	37,414	57,634	54,191	48,317	51,505	55,979
Corn Belt								
Illinois[d]	404	588	398	378	252	582	592	622
Indiana[b]	366[e]	400	378	320	(a)	459	472	516
Iowa[b]	(a)	(a)	(a)	(a)	(a)	140	126	99
Missouri[b]	292[e]	324	256	296	(a)	369	351	337
Ohio[b]	544	561	572	561	480	604	631	701
	1,606	1,873	1,604	1,555	732	2,154	2,172	2,275
Northern Plains								
Kansas[d]	2,420	1,850	2,380	2,808	2,640	2,895	2,908	3,014
Nebraska[d]	1,341	1,188	1,140	1,935	1,102	1,257	1,328	1,507
North Dakota[d]	93,123	79,800	81,320	98,670	112,700	85,737	89,862	101,062
South Dakota[c]	26,244	17,670	39,520	26,880	20,905	21,222	22,596	24,247
	123,128	100,508	124,360	130,293	137,347	111,111	116,694	129,830
Appalachia								
Kentucky[d]	1,049	1,258	800	1,150	989	2,400	2,700	3,300
North Carolina[b]	2,577	2,760	2,340	2,200	3,009	3,911	4,384	5,439
Tennessee[d]	479	434	532	507	442	638	680	780
Virginia[b]	4,481	4,410	4,416	4,048	5,050	7,379	8,356	10,535
West Virginia[b]	414	460	378	378	440	663	757	958
	9,000	9,322	8,466	8,283	9,930	14,991	16,877	21,012
Southeast								
Alabama[d]	87[f]	92	81	(a)	(a)	69	71	75
Florida[a]	...	...	...	...	...	...	...	...
Georgia[b]	240[e]	190	270	259	(a)	454	482	561
South Carolina[b]	857	741	720	840	1,128	1,197	1,339	1,652
	1,183	1,023	1,071	1,099	1,128	1,720	1,892	2,288
Delta Area[a]								
Southern Plains								
Oklahoma[c]	3,097	2,400	3,066	4,200	2,720	9,568	9,460	9,359
Texas[d]	2,222	2,380	2,028	3,400	1,080	2,441	2,565	2,877
	5,319	4,780	5,094	7,600	3,800	12,009	12,025	12,236

(cont'd)

Table 5, continued/Barley Production and Projections

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Mountain Region								
Arizona[b]	3,968	4,875	4,332	4,180	2,485	12,587	14,139	17,613
Colorado[b]	13,649	12,190	13,475	13,570	15,360	15,880	17,683	21,717
Idaho[b]	45,233	37,750	43,200	44,180	55,800	42,405	43,893	50,990
Montana[d]	52,834	50,700	52,065	52,195	56,375	69,451	77,038	94,060
Nevada[b]	991	663	864	1,235	1,200	1,212	1,366	1,711
New Mexico[b]	1,400	1,624	1,224	1,326	1,425	1,282	1,432	1,765
Utah[b]	7,144	8,100	6,930	6,210	7,336	10,118	11,220	13,682
Wyoming[b]	7,858	7,493	8,370	7,315	8,253	9,978	11,522	14,540
	133,077	123,395	130,460	130,211	148,234	162,913	178,293	216,078
Pacific Coast								
California[b]	53,945	60,420	56,560	53,200	45,600	63,649	69,779	83,855
Oregon[b]	8,553	8,673	7,360	8,930	9,250	11,834	12,449	13,991
Washington[b]	18,838	20,140	21,060	9,450	24,700	19,207	20,301	23,793
	81,336	89,233	84,980	71,580	79,550	94,690	102,529	121,639
U.S. Total	412,565	376,194	405,810	420,159	447,008	466,943	503,171	587,357

[a] Little or no barley production in the state, at present or expected. [b] State did not provide estimates. Estimates based on NIRAP series issued July 14, 1978. [c] Estimates based on NIRAP series issued March 10, 1975. [d] Revised estimates based on NIRAP series issued July 14, 1978. [e] Three-year average. [f] Two-year average.

Table 6. — Grain Sorghum Production: 1975, 1976, 1977, and 1978 and Projections for 1984, 1989, and 1999

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Northeast[a]								
Lake States[a]								
Corn Belt								
Illinois[b]	4,188	4,080	3,953	4,096	4,624	6,849	9,134	14,931
Indiana[c]	1,176	1,152	1,407	1,170	975	1,941	2,229	2,889
Iowa[b]	1,868	1,612	1,690	2,368	1,800	2,281	2,566	3,162
Missouri[d]	50,488	26,460	39,600	67,890	68,000	31,198	43,251	57,866
Ohio[a]	...	...	...	...	...	...	...	...
	57,720	33,304	46,650	75,524	75,399	42,269	57,180	78,848
Northern Plains								
Kansas[b]	191,488	144,060	169,850	243,000	209,040	231,218	249,387	293,676
Nebraska[b]	127,105	104,500	119,700	146,970	137,250	118,795	126,962	143,559
North Dakota[a]	...	...	...	...	...	...	...	...
South Dakota[d]	10,866	6,162	3,496	16,807	17,000	20,093	22,191	26,746
	329,459	254,722	293,046	406,777	363,290	370,106	398,540	463,981
Appalachia								
Kentucky[b]	1,588	1,400	1,700	1,824	1,426	1,500	1,900	2,100
North Carolina[c]	4,015	4,335	4,590	2,664	4,472	5,613	6,361	8,086
Tennessee[b]	1,194	1,265	1,265	1,020	1,224	2,481	2,849	3,887
Virginia[c]	476	484	473	430	517	960	1,120	1,490
West Virginia[a]	...	...	...	...	...	...	...	...
	7,272	7,484	8,028	5,938	7,639	10,554	12,230	15,563
Southeast								
Alabama[d]	1,073	1,221	1,085	729	1,258	1,209	1,200	1,275
Florida[a]	...	...	...	...	...	...	...	...
Georgia[b]	1,434	1,880	1,935	672	1,247	2,481	3,012	4,289
South Carolina[c]	444	595	510	192	480	890	1,066	1,490
	2,951	3,696	3,530	1,593	2,985	4,580	5,278	7,054

(cont'd)

Table 6, continued/Grain Sorghum Production and Projections

	Average, 1975-1978	1975	1976	1977	1978	1984	1989	1999
				bushels (000)				
Delta Area								
Arkansas[b]	12,601	9,800	15,500	13,104	12,000	23,401	29,075	41,387
Louisiana[d]	707	608	980	660	578	1,150	1,255	1,465
Mississippi[d]	1,103	1,330	1,517	768	798	1,266	1,241	1,104
	14,411	11,738	17,997	14,532	13,376	25,817	31,571	43,956
Southern Plains								
Oklahoma[d]	18,910	19,760	16,950	21,470	17,460	74,093	86,797	86,797
Texas[b]	281,388	374,400	292,900	230,400	227,850	442,782	484,719	582,870
	300,298	394,160	309,850	251,870	245,310	516,875	571,516	669,667
Mountain Region								
Arizona[c]	6,924	8,160	6,643	7,200	5,694	16,228	17,618	20,965
Colorado[c]	8,062	7,540	7,252	8,153	9,300	9,835	10,210	11,337
Idaho[a]	...	...	...	...	...	...	...	...
Montana[a]	...	...	...	...	...	...	...	...
Nevada[a]	...	...	...	...	...	...	...	...
New Mexico[c]	12,871	15,500	11,940	11,760	12,282	19,909	21,801	26,252
Utah[a]	...	...	...	...	...	...	...	...
Wyoming[a]	...	...	...	...	...	...	...	...
	27,857	31,200	25,835	27,113	27,276	45,972	49,629	58,554
Pacific Coast								
California[c]	13,146	14,904	14,910	9,636	13,135	14,617	12,939	10,237
Oregon[a]	...	...	...	...	...	...	...	...
Washington[a]	...	...	...	...	...	...	...	...
	13,146	14,904	14,910	9,636	13,135	14,617	12,939	10,237
U.S. Total	753,114	751,208	719,846	792,983	748,410	1,030,790	1,138,883	1,347,860

[a] Little or no grain sorghum production in the state, at present or expected. [b] Revised estimates based on NIRAP series issued July 14, 1978. [c] State did not provide estimates. Estimates are based on NIRAP series issued July 14, 1978. [d] Estimates based on NIRAP series issued March 10, 1975.

Table 7. — Corn Consumption by Livestock, 1976 and 1977, and Projections for 1985, 1990, and 2000 for Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	(b)	84,683	92,098	95,371	105,888
Arkansas[a]	(b)	88,832	108,061	121,536	151,185
Georgia[a]	129,250	136,055	141,062	150,104	168,106
Illinois[a]	196,423	186,986	238,599	246,287	263,714
Indiana[c]	(b)	245,200	245,230	246,763	261,013
Iowa[a]	419,972	420,392	491,885	443,647	475,590
Kansas[a, d]	76,638	80,671	90,740	102,236	126,583
Kentucky[a]	63,800	66,100	84,700	87,000	90,600
Louisiana[a]	(b)	18,114	23,641	26,388	26,682
Michigan[a]	99,662	81,199	100,103	105,299	119,529
Minnesota[c]	(b)	248,776	392,159	504,485	544,221
Mississippi[a]	67,659	57,850	62,469	64,249	68,562
Missouri[a]	(b)	116,812	148,014	156,278	176,570
Montana[a]	730	825	899	1,052	1,277
Nebraska[a, d]	153,678	169,843	191,056	202,894	234,922
North Dakota[a]	6,482	6,150	5,512	5,510	5,504
Ohio[a]	127,589	130,221	126,465	123,325	118,785
Oklahoma[b]	(b)	(b)	70,345	72,876	79,168
South Dakota[c]	138,508	89,408	152,430	158,521	171,125
Tennessee[a]	71,479	71,484	74,995	77,887	85,257
Texas[a, d]	111,277	120,621	191,648	200,669	219,494

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975. [d] Estimates for consumption and transportable surplus of corn and grain sorghum in Kansas, Nebraska, and Texas are based on feed requirements supplied by corn and grain sorghum. The split between these two grains depends on the rations used. It is particularly difficult to estimate the amount of each grain fed in states where a large amount of grain sorghum is produced. Market conditions, especially relative prices, will have a major influence on the relative feed use of each grain in the future, so the division is a very tentative one.

Table 8. — Wheat Consumption by Livestock, 1976 and 1977, and Projections for 1985, 1990, and 2000 for Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	(b)	1,903	1,699	1,499	1,064
Arkansas[a]	(b)	3,860	5,192	5,883	7,316
Georgia[a]	3,517	3,842	4,572	4,971	5,784
Illinois[a]	9,191	8,607	11,566	11,991	12,824
Indiana[c]	(b)	1,776	1,864	1,935	2,061
Iowa[a]	0	0	0	0	0
Kansas[a]	7,018	6,897	7,546	8,720	10,772
Kentucky[a]	1,400	1,500	2,400	2,400	2,400
Louisiana[a]	0	0	0	0	0
Michigan[a]	0	0	0	0	0
Minnesota[a]	(b)	9,134	8,762	10,000	12,942
Mississippi[a]	352	374	266	261	254
Missouri[a]	(b)	7,344	5,428	5,006	4,821
Montana[a]	67,117	60,879	3,928	5,583	6,223
Nebraska[a]	0	0	0	0	0
North Dakota[a]	1,253	1,189	1,056	1,092	1,188
Ohio[a]	2,526	2,406	3,556	3,411	3,113
Oklahoma[c]	(b)	(b)	2,010	2,089	2,278
South Dakota[c]	2,211	1,675	1,793	1,837	1,943
Tennessee[a]	6,682	1,302	1,431	1,456	1,530
Texas[a]	7,043	10,349	2,922	3,316	3,850

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975.

Table 9. — Oat Consumption by Livestock, 1976 and 1977, and Projections for 1985, 1990, and 2000 for Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	(b)	9,455	9,833	9,996	10,700
Arkansas[a]	(b)	4,010	5,819	6,527	7,990
Georgia[a]	6,535	6,800	7,272	7,688	8,744
Illinois[a]	8,387	7,850	8,826	8,793	8,943
Indiana[c]	(b)	1,689	8,660	8,865	9,196
Iowa[a]	48,758	55,342	45,919	49,883	54,660
Kansas[a]	5,400	10,192	6,270	6,726	7,219
Kentucky[a]	14,100	14,100	14,400	14,700	14,500
Louisiana[a]	(b)	5,133	9,962	10,572	11,762
Michigan[a]	10,104	10,304	11,899	12,676	14,176
Minnesota[a]	(b)	52,118	49,498	39,245	18,740
Mississippi[a]	10,352	8,742	11,402	9,964	10,188
Missouri[b]	...	...	...	...	...
Montana[a]	10,750	7,536	11,097	14,096	17,222
Nebraska[a]	28,910	27,720	34,494	39,422	49,310
North Dakota[a]	30,057	28,619	22,869	23,180	23,892
Ohio[a]	19,751	17,010	21,746	21,774	22,406
Oklahoma[c]	(b)	(b)	4,310	4,577	4,457
South Dakota[c]	59,367	54,193	59,028	59,496	61,874
Tennessee[a]	4,258	4,258	4,008	3,924	3,519
Texas[a]	1,789	13,977	16,303	16,280	16,028

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975.

Table 10. — Barley Consumption by Livestock, 1976 and 1977, and Projections for 1985, 1990, and 2000 for Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	([b])	70	79	0	0
Arkansas[a]	0	0	0	0	0
Georgia[a]	682	718	782	844	968
Illinois[a]	1,411	1,387	1,233	1,179	1,110
Indiana[c]	0	0	0	0	0
Iowa[a]	0	0	0	0	0
Kansas[a]	1,900	2,341	2,800	2,800	2,800
Kentucky[a]	3,500	3,600	4,100	4,100	4,200
Louisiana[a]	0	0	0	0	0
Michigan[a]	0	0	0	0	0
Minnesota[c]	([b])	4,231	5,466	5,820	6,293
Mississippi[a]	0	0	0	0	0
Missouri[a]	0	0	0	0	0
Montana[a]	31,257	25,785	34,760	33,458	35,684
Nebraska[a]	1,188	1,140	1,257	1,328	1,507
North Dakota[a]	8,825	8,337	7,443	7,488	7,575
Ohio[a]	0	0	0	0	0
Oklahoma[c]	([b])	([b])	9,606	9,568	10,879
South Dakota[c]	6,203	5,098	6,927	7,197	7,810
Tennessee[a]	568	568	599	612	856
Texas[a]	0	3,865	4,179	4,368	4,803

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975.

Table 11. — Grain Sorghum Consumption by Livestock, 1976 and 1977, and Projections for 1985, 1990, and 2000 for Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	([b])	3,554	3,570	3,457	2,847
Arkansas[a]	([b])	13,970	17,009	19,130	23,797
Georgia[a]	4,692	4,924	5,039	5,356	5,968
Illinois[a]	7,505	7,043	9,569	9,972	10,890
Indiana[c]	0	0	0	0	0
Iowa[a]	0	0	0	0	0
Kansas[a, d]	130,892	137,781	143,273	161,425	200,341
Kentucky[a]	6,600	6,800	8,500	8,900	8,900
Louisiana[a]	([b])	4,507	6,412	6,739	6,649
Michigan[a]	0	0	0	0	0
Minnesota[a]	0	0	0	0	0
Mississippi[a]	2,502	2,547	2,765	2,812	3,994
Missouri[a]	([b])	31,908	18,938	27,837	37,197
Montana[a]	0	0	0	0	0
Nebraska[a, d]	19,832	21,918	22,452	22,586	23,707
North Dakota[a]	0	0	0	0	0
Ohio[a]	0	0	0	0	0
Oklahoma[c]	([b])	([b])	34,756	36,120	39,120
South Dakota[c]	19,490	12,665	22,501	23,609	25,935
Tennessee[a]	1,465	1,465	1,472	1,721	2,234
Texas[a, d]	112,260	110,989	186,569	188,076	199,673

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975. [d] See footnote d, Table 7.

Table 12. — Grain Consumption by Livestock, 1976 and 1977, and Projections for 1985, 1990, and 2000 for Selected Southern and North Central States

	1976	1977	1985	1990	2000
			tons (000)		
Alabama	(a)	2,681	2,889	2,972	3,248
Arkansas	(a)	3,060	3,752	4,221	5,249
Georgia	3,976	4,188	4,363	4,645	5,211
Illinois	6,154	5,850	7,467	7,704	8,244
Indiana	(a)	6,948	7,064	7,112	7,520
Iowa	12,539	12,656	14,508	13,220	14,192
Kansas	6,154	6,543	6,948	7,822	9,662
Kentucky	2,322	2,398	3,010	3,090	3,191
Louisiana	(a)	718	1,001	1,097	1,121
Michigan	2,952	2,439	2,993	3,151	3,574
Minnesota	(a)	8,176	12,166	15,194	16,076
Mississippi	2,141	1,842	2,016	2,045	2,203
Missouri	(a)	(a)	(a)	(a)	(a)
Montana	2,958	2,589	1,155	1,225	1,355
Nebraska	5,348	5,839	6,059	6,977	8,067
North Dakota	912	866	731	737	754
Ohio	3,966	3,990	3,996	3,903	3,777
Oklahoma	(a)	(a)	3,303	3,418	3,712
South Dakota	5,591	3,897	6,062	6,280	6,753
Tennessee	2,324	2,164	2,262	2,351	2,573
Texas	6,499	6,852	11,041	11,352	12,226

[a] State did not provide data.

Table 13. — Corn Surpluses or Deficits, 1976 and 1977, and Projected Surpluses for 1985, 1990, and 2000, Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	(b)	(36,683)	(65,698)	(67,246)	(72,138)
Arkansas[a]	(b)	(86,312)	(105,941)	(119,400)	(148,551)
Georgia[a]	(25,850)	(2,135)	(33,139)	(30,797)	(29,788)
Illinois[a]	1,057,537	1,053,144	966,804	1,072,858	1,217,862
Indiana[c]	(b)	447,799	368,520	388,692	459,402
Iowa[a]	671,728	753,508	782,155	943,244	1,100,308
Kansas[a, d]	61,122	91,169	114,032	141,309	186,076
Kentucky[a]	24,000	72,600	55,300	68,000	89,400
Louisiana[a]	(b)	(14,734)	(21,069)	(24,262)	(25,259)
Michigan[a]	53,130	60,251	55,119	61,772	84,303
Minnesota[c]	(b)	81,624	259,187	197,335	220,288
Mississippi[a]	(61,714)	(49,766)	(56,967)	(59,317)	(64,770)
Missouri[a]	(b)	57,038	126,086	144,258	176,570
Montana[a]	0	0	0	0	0
Nebraska[a, d]	349,559	344,757	672,354	798,808	1,063,425
North Dakota[a]	1,158	1,425	5,787	6,856	8,649
Ohio[a]	193,491	263,239	308,364	344,675	423,215
Oklahoma[c]	(b)	(b)	(64,437)	(66,119)	(70,710)
South Dakota[c]	(55,258)	(52,208)	(37,283)	(44,776)	(54,493)
Tennessee[a]	(34,579)	(15,029)	(36,965)	(38,095)	(42,955)
Texas[a, d]	2,023	59,379	(42,995)	(34,322)	(21,975)

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975. [d] See footnote d, Table 7.

Table 14. — Wheat Surpluses or Deficits, 1976 and 1977, and Projected Surpluses for 1985, 1990, and 2000, Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	(b)	392	313	633	1,206
Arkansas[a]	(b)	20,710	13,250	16,018	21,004
Georgia[a]	128	(277)	165	698	1,712
Illinois[a]	58,279	63,543	36,973	35,453	37,389
Indiana[c]	(b)	52,226	53,397	54,925	56,971
Iowa[a]	3,400	4,550	2,686	3,077	3,763
Kansas[a]	338,082	332,103	371,774	427,260	527,848
Kentucky[a]	10,568	8,700	8,800	10,800	14,400
Louisiana[a]	256	759	782	748	694
Michigan[a]	38,760	37,620	33,363	33,018	33,584
Minnesota[a]	(b)	121,348	116,403	133,805	171,944
Mississippi[a]	4,088	4,846	3,581	3,753	3,778
Missouri[a]	(b)	50,736	48,481	51,072	54,568
Montana[a]	88,808	106,416	136,397	153,463	185,039
Nebraska[a]	98,240	94,000	119,172	138,809	173,884
North Dakota[a]	286,577	177,274	290,946	312,252	371,404
Ohio[a]	71,814	61,594	66,144	68,089	71,587
Oklahoma[c]	(b)	(b)	170,662	184,374	210,723
South Dakota[c]	61,083	37,845	66,553	68,131	72,106
Tennessee[a]	2,928	11,093	10,878	13,345	18,055
Texas[a]	124,057	93,051	98,536	119,585	153,911

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975.

Table 15. — Oat Surpluses or Deficits, 1976 and 1977, and Projected Surpluses for 1985, 1990, and 2000, Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	(b)	(8,530)	(8,582)	(8,721)	(9,380)
Arkansas[a]	(b)	280	(458)	(573)	(761)
Georgia[a]	(3,904)	(3,620)	(3,443)	(3,543)	(3,894)
Illinois[a]	18,260	14,570	13,597	13,523	13,511
Indiana[c]	(b)	8,511	2,342	1,818	1,275
Iowa[a]	29,782	27,258	32,548	32,636	37,120
Kansas[a]	(1,040)	(1,792)	(330)	353	911
Kentucky[a]	(13,700)	(13,800)	(14,100)	(14,500)	(14,300)
Louisiana[a]	(b)	(4,755)	(9,702)	(10,411)	(11,758)
Michigan[a]	10,616	9,331	7,783	7,039	5,893
Minnesota[a]	(b)	42,642	38,891	30,836	44,725
Mississippi[a]	(9,272)	(7,786)	(10,456)	(8,968)	(9,190)
Missouri[b]	...	...	...	...	...
Montana[a]	0	0	1,530	0	0
Nebraska[a]	0	0	0	0	0
North Dakota[a]	11,490	16,053	37,020	32,337	25,688
Ohio[a]	10,749	11,490	6,254	5,126	3,694
Oklahoma[c]	(b)	(b)	(854)	(1,295)	(1,647)
South Dakota[a]	38,753	(11,593)	34,988	41,324	51,520
Tennessee[a]	(3,058)	(2,818)	(2,722)	(2,599)	(2,087)
Texas[a]	17,711	453	(761)	643	3,853

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975.

Table 16. — Barley Surpluses or Deficits, 1976 and 1977, and Projected Surpluses for 1985, 1990, and 2000, Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	([b])	11	(10)	71	75
Arkansas[a]	0	0	0	0	0
Georgia[a]	(492)	(448)	(328)	(362)	(407)
Illinois[a]	(823)	(989)	(651)	(587)	(488)
Indiana[a]	400	378	459	472	516
Iowa[a]	0	0	140	126	99
Kansas[a]	(50)	(39)	95	108	214
Kentucky[a]	(2,242)	(2,800)	(1,700)	(1,400)	(900)
Louisiana[a]	0	0	0	0	0
Michigan[a]	799	874	1,063	1,125	1,276
Minnesota[c]	([b])	31,029	40,082	42,684	46,150
Mississippi[a]	0	0	0	0	0
Missouri[a]	324	256	369	351	337
Montana[a]	19,443	26,280	34,691	43,580	58,376
Nebraska[a]	0	0	0	0	0
North Dakota[a]	72,495	59,868	78,294	82,374	93,487
Ohio[a]	561	572	604	631	701
Oklahoma[c]	([b])	([b])	(38)	(108)	(1,520)
South Dakota[c]	11,467	34,422	14,295	15,399	16,437
Tennessee[a]	(134)	(36)	39	68	(76)
Texas[a]	2,380	(1,837)	(1,738)	(1,803)	(1,926)

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975.

Table 17. — Grain Sorghum: Surpluses or Deficits, 1976 and 1977, and Projected Surpluses for 1985, 1990, and 2000, Selected Southern and North Central States

	1976	1977	1985	1990	2000
			bushels (000)		
Alabama[a]	([b])	(2,469)	(2,361)	(2,257)	(1,572)
Arkansas[a]	([b])	1,530	6,392	9,945	17,590
Georgia[a]	(2,812)	(2,989)	(2,558)	(2,344)	(1,679)
Illinois[a]	(3,425)	(3,090)	(2,720)	(838)	4,041
Indiana[a]	1,152	1,407	1,941	2,229	2,889
Iowa[a]	1,612	1,690	2,281	2,566	3,162
Kansas[a, d]	13,168	32,069	87,945	87,962	93,335
Kentucky[a]	(5,200)	(5,100)	(7,000)	(7,000)	(6,800)
Louisiana[a]	([b])	(3,527)	(5,262)	(5,484)	(5,184)
Michigan[a]	0	0	0	0	0
Minnesota[a]	0	0	0	0	0
Mississippi[a]	(1,172)	(1,030)	(1,499)	(1,571)	(2,890)
Missouri[a]	([b])	7,692	12,260	15,414	20,669
Montana[a]	0	0	0	0	0
Nebraska[a, d]	84,668	97,782	96,523	104,375	119,851
North Dakota[a]	0	0	0	0	0
Ohio[a]	0	0	0	0	0
Oklahoma[c]	([b])	([b])	(39,336)	(50,677)	(47,677)
South Dakota[c]	(13,328)	(9,169)	(2,407)	(1,417)	811
Tennessee[a]	(200)	(200)	1,009	1,128	1,653
Texas[a, d]	262,140	181,911	256,213	296,643	389,197

[a] Based on NIRAP series issued July 14, 1978. [b] State did not provide data. [c] Based on NIRAP series issued March 10, 1975. [d] See footnote d, Table 7.

Table 18. — Corn Balance Sheet, 1977

	Jan., 1977 stocks	Production	Consumption				Jan., 1978 stocks	Surplus or deficit
			Livestock	Seed	Processors	Total		
				bushels (000)				
Alabama	24,082	10,875	84,683	116	7,430	92,229	10,344	(67,616)
Arkansas	1,725	2,279	88,832	50	0	88,882	2,016	(86,894)
Georgia	72,473	24,000	136,055	452	250	136,757	24,712	(64,996)
Illinois	1,012,341	1,163,400	186,986	2,806	121,618	311,410	1,041,203	823,128
Indiana	478,370	633,420	245,200	1,531	66,384	313,115	446,202	352,473
Iowa	1,050,091	1,092,200	420,392	2,756	194,700	617,848	1,128,442	396,001
Kansas	121,944	161,280	80,671	487	1,200	82,358	125,700	75,166
Kentucky	107,569	132,300	66,610	353	12,376	79,339	96,495	64,035
Louisiana	14,780	3,380	18,114	35	0	18,149	15,640	(15,629)
Michigan	99,704	197,200	81,119	557	0	81,676	144,097	71,131
Minnesota	304,034	600,000	248,776	1,464	0	250,240	556,762	97,032
Mississippi	5,078	5,760	57,850	47	0	57,897	3,922	(50,982)
Missouri	129,737	201,400	116,812	860	39,300	156,972	151,237	22,928
Montana	(b)	748	825	12	0	837	(b)	(89)
Nebraska	432,969	648,450	169,843	1,403	14,323	185,569	593,888	301,962
North Dakota	5,545	17,301	6,150	109	0	6,259	15,162	1,425
Ohio	287,204	380,100	130,221	1,010	17,040	148,271	293,108	225,925
Oklahoma	4,275	7,790	(a)	(a)	(a)	32,000	4,939	24,874
South Dakota	38,640	126,850	(a)	(a)	(a)	89,408	92,863	(16,781)
Tennessee	29,554	47,450	(a)	(a)	(a)	79,434	31,558	(33,988)
Texas	126,906	161,700	120,621	421	39,190	160,232	126,698	(1,676)

[a] State provided figures only for total consumption. [b] State had only very small grain stocks.

Table 19. — Soybean Balance Sheet, 1977

	Jan., 1977 stocks	Production	Consumption			Jan., 1978 stocks	Surplus or deficit
			Seed	Processors	Total		
			bushels (000)				
Alabama	19,296	33,600	2,340	33,792	36,132	18,872	(2,108)
Arkansas	52,521	105,800	5,115	51,632	56,747	86,915	14,659
Georgia	20,718	21,800	1,376	31,057	32,433	19,364	(9,278)
Illinois	219,562	336,300	5,551	170,973	176,524	283,688	95,650
Indiana	66,309	144,300	3,902	65,554	69,456	82,533	58,620
Iowa	218,283	251,340	4,936	143,194	148,130	242,289	79,204
Kansas	17,821	28,215	1,071	36,000	37,071	23,950	(14,985)
Kentucky	19,851	40,920	1,540	16,352	17,892	30,025	12,855
Louisiana	30,203	62,980	4,063	13,797	17,860	37,183	38,140
Michigan	5,079	21,600	730	0	730	11,570	14,379
Minnesota	73,994	133,835	5,162	63,415	68,577	107,398	31,854
Mississippi	45,868	78,475	4,125	31,053	35,178	49,336	39,829
Missouri	56,324	148,800	4,050	38,647	42,697	86,014	76,413
Montana[b]	...	...	...	...	...	...	...
Nebraska	21,456	40,680	1,869	(a)	(a)	36,061	(a)
North Dakota	1,626	3,500	198	0	198	2,996	(1,932)
Ohio	61,351	119,900	4,080	22,427	26,507	77,376	77,368
Oklahoma	2,587	7,820	(c)	(c)	2,434	5,134	2,839
South Dakota	4,040	9,608	680	0	680	6,510	6,458
Tennessee	26,104	52,170	(c)	(c)	50,033	27,940	301
Texas	6,982	20,140	720	1,653	2,373	12,633	12,116

[a] No data provided. [b] Little or no soybean production or utilization. [c] State provided figures only on total consumption.

Table 20. — Wheat Balance Sheet, 1977

	Jan., 1977 stocks	Production	Consumption				Jan., 1978 stocks	Surplus or deficit
			Livestock	Seed	Processors	Total		
					bushels (000)			
Alabama	1,572	2,520	1,903	136	0	2,039	289	1,764
Arkansas	2,474	25,740	3,860	1,254	0	5,114	4,102	18,998
Georgia	1,109	3,300	3,842	320	1,100	5,262	902	(1,755)
Illinois	40,578	67,510	8,607	2,703	36,623	47,933	51,435	8,720
Indiana	16,706	55,800	1,776	2,565	9,329	13,670	16,280	42,556
Iowa	3,855	4,033	0	308	6,124	6,432	3,106	(1,650)
Kansas	371,231	344,850	6,897	11,969	69,066	87,932	390,713	237,436
Kentucky	4,729	10,138	1,500	646	2,285	4,431	4,257	6,179
Louisiana	6,323	850	0	38	6,069	6,107	9,915	(8,849)
Michigan	20,615	33,000	0	1,827	8,000	9,827	26,095	17,693
Minnesota	103,827	131,894	9,134	2,883	76,101	88,118	146,184	1,419
Mississippi	587	3,570	374	209	0	583	339	3,235
Missouri	49,876	68,640	7,344	2,950	54,413	63,707	45,736	9,073
Montana	138,790	130,920	60,879	4,028	7,748	72,355	148,850	48,505
Nebraska	95,108	103,250	(a)	(a)	(a)	23,868	115,120	59,370
North Dakota	263,087	229,907	1,189	13,944	7,009	22,142	293,578	177,274
Ohio	42,631	72,380	2,406	3,634	32,386	38,426	50,756	25,829
Oklahoma	126,291	175,500	(a)	(a)	(a)	31,550	141,173	129,068
South Dakota	40,819	71,964	(a)	(a)	(a)	4,554	74,191	34,038
Tennessee	5,844	10,080	(a)	(a)	(a)	26,477	4,915	(15,468)
Texas	98,298	117,500	10,358	5,671	19,418	35,447	138,302	42,049

[a] State provided figures only on total consumption.

Table 21. — Grain Sorghum Balance Sheet, 1977

	Jan., 1977 stocks	Production	Consumption				Jan., 1978 stocks	Surplus or deficit
			Livestock	Seed	Processors	Total		
					bushels (000)			
Alabama	347	729	3,554	102	0	3,656	335	(2,915)
Arkansas	3,640	13,104	13,970	39	0	14,009	6,701	(3,966)
Georgia	791	672	4,924	22	0	4,946	336	(3,819)
Illinois	2,175	4,096	7,043	17	0	7,054	2,333	(3,122)
Indiana	(b)	1,170	0	5	0	5	(b)	1,165
Iowa	2,617	2,368	0	11	0	11	1,629	3,345
Kansas	139,562	243,000	137,781	4,382	3,500	145,663	193,935	42,964
Kentucky	1,019	1,824	6,800	9	0	6,809	1,129	(5,095)
Louisiana	643	660	4,507	20	0	4,527	465	(3,689)
Michigan[c]	...	...	...	...	...	...	...	...
Minnesota[c]	...	...	...	...	...	...	...	...
Mississippi	0	768	2,547	12	0	2,559	0	(1,791)
Missouri	21,882	67,890	31,908	93	6,992	38,993	33,220	17,559
Montana[c]	...	...	...	...	...	...	...	...
Nebraska	101,130	146,970	21,918	3,289	0	25,207	134,865	88,028
North Dakota[c]	...	...	...	...	...	...	...	...
Ohio[c]	...	...	...	...	...	...	...	...
Oklahoma	12,543	21,470	(a)	(a)	(a)	17,027	18,650	(1,664)
South Dakota	3,227	16,807	(a)	(a)	(a)	12,665	14,157	(6,788)
Tennessee	(b)	1,020	1,465	3	0	1,468	(b)	(448)
Texas	169,512	230,400	110,989	671	44,082	155,742	190,927	53,242

[a] State provided figures only on total consumption. [b] State had only very small grain stocks. [c] Little or no grain sorghum production or utilization in the state.

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